

CLAIM AMENDMENTS

1. (cancelled)
2. (currently amended) The wear-detection sensor of Claim 14, wherein the conductor is embedded in the insulating material.
3. (currently amended) The wear-detection sensor of Claim 14, wherein the insulating material is urethane.
4. (currently amended) ~~The wear-detection sensor of Claim 1,~~
A wear-detection sensor comprising a body of electrically insulating material with an opening through which a flowable substance can pass, and an electrical conductor surrounding the opening and adapted to undergo a discernable change in conductivity as the insulating material is worn away by the flowable substance;
wherein the body of insulating material and the conductor are parts of a printed circuit board.
5. (original) The wear-detection sensor of Claim 4, further including signal processing circuitry mounted on the printed circuit board and connected to the conductor.
6. (cancelled)

7. (currently amended) The wear-detection sensor of Claim ~~69~~, together with a monitor connected to the conductors for detecting the changes in conductivity to determine the amount of wear.

8. (currently amended) The wear-detection sensor of Claim ~~69~~, wherein the insulating material is urethane.

9. (currently amended) ~~The wear-detection sensor of Claim 6,~~ A wear-detection sensor, comprising a body of electrically insulating material with an opening through which a flowable substance can pass, and a plurality of electrical conductors disposed concentrically of the opening and adapted to successively undergo changes in conductivity as the opening increases in size due to abrasive wear of the insulating material by the flowable substance;

wherein the body of insulating material and the conductors are parts of a printed circuit board.

10. (original) The wear-detection sensor of Claim 9, further including signal processing circuitry mounted on the printed circuit board and connected to the conductors.

11. (cancelled)

12. (currently amended) The wear-detection sensor of Claim ~~11~~16, including at least one additional conductor disposed coaxially about the opening and adapted to undergo a change in conductivity as the insulating material near the additional conductor is worn away by the flowing substance.

13. (currently amended) The wear-detection sensor of Claim ~~11~~16, wherein one of the two parts is the conically tapered separation chamber of a hydrocyclone.

14. (currently amended) The wear-detection sensor of Claim ~~11~~16, wherein one of the two parts is a pipe.

15. (currently amended) The wear-detection sensor of Claim ~~11~~16, wherein the insulating material is urethane.

16. (currently amended) ~~The wear-detection sensor of Claim 11,~~
A wear-detection sensor comprising a body of electrically insulating material positioned between two parts which carry a flowing substance, with an opening in the body through which the substance can pass, and an electrical conductor surrounding the opening and adapted to undergo a discernable change in conductivity as the insulating material is worn away by the flowing substance;

wherein the body of insulating material and the conductors are parts of a printed circuit board.

17. (original) The wear-detection sensor of Claim 16, further including signal processing circuitry mounted on the printed circuit board and connected to the conductors.

18. (cancelled)

19. (currently amended) The wear-detection sensor of Claim ~~19~~20, wherein the insulating material is urethane.

20. (currently amended) ~~The wear detection sensor of Claim 19,~~
A wear-detection sensor comprising a body of insulating material adapted to be worn away in an outward direction by a substance flowing through a central opening in the body, a ring of electrically conductive material disposed concentrically of the opening and adapted to be worn away with the insulating material, and a gap in the ring between confronting end portions to which electrical connections are made to monitor continuity of the conductive material;

wherein the body of insulating material and the ring of conductive material are parts of a printed circuit board.

21. (original) The wear-detection sensor of Claim 20, further including signal processing circuitry mounted on the printed circuit board and connected to the end portions of the conductive material.

22. (currently amended) A wear-detection sensor comprising a body of insulating material adapted to be worn away in an outward direction by a substance flowing through a central opening in the body, a plurality of concentric rings of electrically conductive material disposed concentrically of the opening and adapted to be successively worn away with the insulating material, and gaps in the rings defining end portions to which electrical connections are made to monitor continuity of the conductive material;

wherein the body of insulating material and the electrically conductive material are parts of a printed circuit board.

23. (original) The wear-detection sensor of Claim 22, wherein the gaps are aligned radially on one side of the opening, with radially extending conductors connected to the end portions of the rings and the conductors connected to an inner ring passing through the gap in an outer ring.

24. (cancelled)

25. (currently amended) The wear-detection sensor of Claim 24~~28~~, wherein the conductor consists of multiple spaced-apart conductive loops disposed at varying distances from an inner wall of said conduit.

26. (currently amended) The wear-detection sensor of Claim 2428, wherein the conductor is embedded in the insulating material.

27. (currently amended) The wear-detection sensor of Claim 2428, wherein the insulating material is urethane.

28. (currently amended) ~~The wear-detection sensor of Claim 24,~~
A wear-detection sensor for a conduit having an opening for passing a flowable substance, comprising a body of electrically insulating material with an electrical conductor adapted to undergo a discernable change in conductivity as the insulating material is worn away by the flowable substance;

wherein the body of insulating material and the conductor are parts of a printed circuit board.

29. (original) The wear-detection sensor of Claim 28, further including signal processing circuitry mounted on the printed circuit board and connected to the conductor.

30. (currently amended) The wear-detection sensor of Claim 2428, wherein said body and conductor are substantially annular to conform to a tubular conduit.

31. (currently amended) The wear-detection sensor of Claim 2428, wherein said body is shaped as a tab insert adapted to span across a wall of said conduit.

32. (currently amended) The wear-detection sensor of Claim 2428, wherein said body is embedded in a protective lining of said conduit.